REMARKS

I. Status of the Claims

Claims 1-24 were originally filed. Claims 1-8 were elected for examination in response to a restriction requirement. Claims 2, 5, 8, and all non-elected claims have been subsequently canceled. Upon entry of the present amendment, claim 1 is amended to recite that "the G-protein alpha subunit is recombinantly expressed in the cell," which finds support in claim 3 as originally filed. Claim 3 is canceled. Claims 1, 4, 6, and 7 remain pending.

II. Claim Objection

The Examiner maintained objections to the specification for references to patent applications without providing their current status. The present amendment to the specification has addressed this issue.

III. Claim Rejection

The Examiner further maintained the rejection of claims 1, 3, 4, 6, and 7 under 35 U.S.C. §112, first paragraph, for alleged inadequate enablement. Applicants respectfully traverse the rejection.

Specifically, the Examiner asserted that the claimed invention is not fully enabled because the specification provides little guidance as to what type of compounds should be screened for the desired activity, which G-protein couple receptor (GPCR) is expressed in the taste cell used in the claimed screening method, or whether the G-protein α subunit or the taste cell specific GPCR is endogenous or exogenous.

Contrary to the Examiner's assertion, the present specification does offer guidance regarding the test compounds and the type of GPCR useful for the claimed screening methods. For example, discussion about taste cell specific GPCRs can be found on page 11, lines 28-31, where two examples are given: GPCR-B3 and GPCR-B4. Discussion about potential taste signaling modulators can be found, *e.g.*, on page 33, lines 2-14, where candidate modulators are exemplified as small chemical compounds such as proteins, sugars, nucleic acids, or lipids.

Applicants further contend that, even without the above-cited discussion in the specification, one of skill in the art would know what type of compounds may be considered as possible candidates for screening and what type of GPCR may be used with the taste cell specific G-protein α subunit in the screening method of the present invention. Several taste cell specific GPCRs (such as the members of the T1R and T2R families) have been identified and in fact used in assays to determine their response to known tastants. For example, two GPCRs (referred to as GPCR-B3 and GPCR-B4 in the present application) specifically expressed in taste cells are described in Hoon *et al.*, *Cell* **96**:541-551, 1999 (AE of the IDS filed May 18, 2000). These GPCRs can be co-expressed with promiscuous G-protein α subunits in cells to test their response to a variety of tastants. *See, e.g.*, left column on page 385 of Nelson *et al.*, *Cell* **106**:381-390, 2001 (attached as Exhibit A); USSN 09/361,652, filed July 27, 1999; and USSN 09/361,631, filed July 27, 1999, now U.S. Patent No. 6,383,778. Similar discussion of co-expressing GPCRs and promiscuous G proteins in assays to measure the stimulatory effects of various tastants can also be found in, *e.g.*, Chandrasheker *et al.*, *Cell* **100**:703-711, 2000, last paragraph in the right column on page 703 (attached as Exhibit B) and Nelson *et al.*, *Nature* **416**:199-202, 2002, second paragraph in the left column on page 199 (attached as Exhibit C).

Skilled artisans in this field are also familiar with potential taste-modulating compounds. For instance, Nelson *et al.* (2001) provide a list of tastants on page 389 in the right column. Chandrasheker *et al.* also provide a list of tastants on page 710 in the right column. Some amino acid tastants are further provided by Nelson *et al.* (2002). It is therefore clear that, upon reading the present disclosure, one of skill in the art would know which compounds or their derivatives may be tested for the desired properties of taste signaling modification.

Following the present amendment, the pending claims now recite the G-protein α subunit being recombinantly expressed in the cell used in the claimed screening method. Applicants contend that whether or not the G-protein α subunit and the taste cell specific GPCR are endogenous or exogenous to the cell bears little relevance to the enablement of the present invention. It is Applicants' intention to encompass in the claim scope the use of cells expressing, in addition to a recombinant G-protein α subunit, a taste cell specific GPCR that may be either

endogenous or exogenous. This claim scope is fully enabled because the techniques necessary for determining the expression of an endogenous protein in a taste cell or for introducing an exogenous protein into a cell are well established and routine practiced by those of skill in the art. An artisan simply need not rely on the teaching of the present disclosure to identify or obtain such a cell suitable for use in the screening method of this invention.

In summary, Applicants contend that the present application fully enables the claimed invention. Accordingly, the withdrawal of the enablement rejection is respectfully requested.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,

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Attachments (Exhibit A: Nelson *et al.*, *Cell* **106**:381-390, 2001. Exhibit B: Chandrasheker *et al.*, *Cell* **100**:703-711, 2000. Exhibit C: Nelson *et al.*, *Nature* **416**:199-202, 2002)

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